UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/567,214 | 02/03/2006 | **Hans Willem Van Kesteren** | NL 030959 | 4194 |

24737 7590 09/15/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

| EXAMINER | |
|---|---|
| BUTCHER, BRIAN M | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2627 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 09/15/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/567,214 | VAN KESTEREN ET AL. | |
| | Examiner | Art Unit | |
| | BRIAN BUTCHER | 2627 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *03 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 March 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

**Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities: On **page 4, line 27, "the magnetic head 1"** appears to need a change to **"the magnetic head 3"** for the sake of clarity. Appropriate correction is required.

The disclosure is objected to because of the following informalities: On **page 5, line 21, "the recording medium 6"** appears to need a change to **"the recording medium 4"** for the sake of clarity. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 1 - 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallary (United States Patent US 6,351,436) hereinafter referenced as Mallary, in view of Van Kesteren et al. (United States Patent Application Publication US 2002/0110082 A1) hereinafter referenced as Van Kesteren, and further in view of Gran et al. (United States Patent 3,102,048) hereinafter referenced as Gran.

Regarding **claim 1**, Mallary discloses magneto-optical recording and reproducing device that reads on the magnetic head for a magneto-optical device claimed. Mallary discloses a thin film bias coil structure (52) and a magnetic pole sheet layer (60, 62, 64,

66, 68) (column 4, lines 37 - 40, figure 2, item 52 and column 5, lines 7 - 20, figure 2, item 60) which reads on "comprising a plurality of substantially parallel planer layers (13, 15), including a layer (13) comprising a coil formed by a plurality of turns (14) (see figure 2, item 54) of an electrically conductive winding, the turns (14) lying substantially in a plane define by the layer (13) and the winding being substantially centered on a central axis perpendicular to the plane (see figure 2, item 54), and further comprising a yoke layer (15) (see figure 2, item 60) . . . wherein the yoke layer comprises a plurality of segments (16; 18; 20; 22) of flux guiding material dividing the yoke layer (15) into sectors which together surround the central axis (see column 5, lines 7 - 20, and figure 2, items 60, 72)" claimed. However, Mallary fails to disclose a yoke layer “comprised of an anisotropic flux guiding material" and "wherein, in each sector, the flux guiding material has an easy axis in a plane of the yoke layer with a direction different from the direction of the easy axis in an adjacent sector. The examiner maintains that it was well known in the art for the magneto-optical recording and reproducing device disclosed in Mallary to include having a yoke layer “comprised of an anisotropic flux guiding material", as taught by Van Kesteren. Furthermore, the examiner maintains that it was well known in the art for the magneto-optical recording and reproducing device disclosed in Mallary to include having “in each sector, the flux guiding material [having] an easy axis in a plane of the yoke layer with a direction different from the direction of the easy axis in an adjacent sector ", as taught by Gran.

First, in a similar field of endeavor Van Kesteren discloses a permanent-magnet layer structure (page 3, paragraph [0031] , lines 14 – 31, and figure 1, items 7, 9a, 9b )

which reads on "a yoke layer (15) comprised of an anisotropic flux guiding material" claimed. Second, in a similar field of endeavor Gran discloses a magnetic film that produces an approximately linear hysteresis loop when driven in the direction perpendicular to the easy axis (column 2, lines 3 – 14, and figures 2, 3) which reads on "the flux guiding material [having] an easy axis in a plane of the yoke layer with a direction different from the direction of the easy axis in an adjacent sector" claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify magneto-optical recording and reproducing device of Mallary by specifically using the teachings in Van Kesteren to include "a yoke layer (15) comprised of an anisotropic flux guiding material" because one having ordinary skill in the art would want to tilt the angle of flux lines for MAMMOS readout (see Van Kesteren page 3, paragraph [0031], lines 26 – 31). Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify magneto-optical recording and reproducing device of Mallary by specifically using the teachings in Gran to include "the flux guiding material [having] an easy axis in a plane of the yoke layer with a direction different from the direction of the easy axis in an adjacent sector " because one having ordinary skill in the art would want to reduce the losses due to hysteresis (see Gran column 2, lines 3 – 14, and figures 2, 3).

Regarding **claim 2**, Mallary, Van Kesteren and Gran, the combination of hereinafter referenced as MVKG, disclose everything claimed as applied above (see claim 1), in addition MVKG disclose having the easy axis of magnetization of perpendicular to the hard axis of magnetization. Specifically, Gran discloses a magnetic film that produces an

approximately linear hysteresis loop when driven in the direction perpendicular to the easy axis (column 2, lines 3 – 14, and figures 2, 3) which reads on “the easy axis of magnetization [being] substantially perpendicular to the radial direction along the bisector of each sector" claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify magneto-optical recording and reproducing device of Mallary by specifically using the teachings in Gran to include “the easy axis of magnetization [being] substantially perpendicular to the radial direction along the bisector of each sector" because one having ordinary skill in the art would want to reduce the losses due to hysteresis (see Gran column 2, lines 3 – 14, and figures 2, 3).

Regarding **claim 3**, Mallary discloses everything claimed as applied above (see claim 1), in addition Mallary discloses an optical mesa (50) at the center of the magnetic pole sheet sectors (column 5, lines 7 – 20, and figure 2, item 50, 60, 72) which reads on “wherein the segments (16; 18; 20) define the perimeters of an optical opening (5; 17; 19; 21) that is substantially centered on the central axis" claimed.

Regarding **claim 4**, Mallary discloses everything claimed as applied above (see claim 1), in addition Mallary discloses that the entire coil (52) is within the confines of the magnetic pole sheet sectors (60, 72) (see comparative dimensions of figure 2, items 52, 60, 72 and figure 3, items 52, 60) which reads on “wherein the segments (16; 18; 20; 22) extend beyond a maximum dimension of the winding in the radial direction" claimed.

Regarding **claim 5**, Mallary discloses everything claimed as applied above (see claim 1), in addition Mallary discloses an insulation layer that extends through the

magnetic pole sheet structure at the slots (72) and attaches to the slider body (20) (column 8, claim 10, and figure 2, items 20, 72) which reads on “wherein at least two adjacent segments (16; 18; 20; 22) are separated by an insulating barrier" claimed.

Regarding **claim 6**, Mallary discloses everything claimed as applied above (see claim 1), in addition Mallary discloses that the flying optical head assembly comprises at least one radial slot (72) in the magnetic pole sheet structure (60, 62, 64, 66, 68) (column 7, claim 8, and figure 2, items 60, 72) which reads on “wherein the segments (16; 18; 22) divide the yoke layer (15) into four sectors" claimed because Mallary teaches one or more slots which will result in less than four sectors, exactly four sectors, and more than four sectors.

Regarding **claim 7**, Mallary discloses everything claimed as applied above (see claim 1), in addition Mallary discloses that the width of the turns closer to the optical mesa (50) or center are of smaller width than turns farther away from the optical mesa (see comparative dimensions of figure 3, items 50, 52) which reads on “wherein turns (14) closer to the central axis have a smaller width than turns (14) further away from the central axis" claimed.

Regarding **claim 8**, Mallary discloses everything claimed as applied above (see claim 1), in addition Mallary discloses a thermal spreading sheet layer structure (60) that is fabricated from a thermally conductive and non-magnetic material (column 6, lines 32 - 44 and figure 4 item 60) which reads on “wherein the flux guiding material is covered at least partly by a non-magnetic heat-conducting layer" claimed because the thermal spreading sheet layer covers the flux guiding layers 62 and 66.

Regarding **claim 9**, Mallary discloses everything claimed as applied above (see claim 1), in addition Mallary discloses an optical data storage device including a flying optical head assembly (18) (column 3, lines 34 – 37, 56 -67, column 4, lines1 – 10, and figure 1, all items, specifically 20 which includes the magnetic head) which reads on a "Magneto-optical device comprising a magnetic head (3)" claimed.

Regarding **claim 10**, Mallary discloses everything claimed as applied above (see claim 9), in addition Mallary discloses an optical data storage device including a flying optical head assembly (18) that includes a magnetic head in slider body (20) that is movable via an actuator (28) (column 3, lines 34 – 37, 56 -67, column 4, lines 1 – 10, and figure 1, all items, specifically items 18, 20, 28) which reads on a 'Magneto-optical device according to claim 9, wherein the magnetic head (3) is integrated in an actuated movable body (1)" claimed.

## ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN BUTCHER whose telephone number is (571)270-5575. The examiner can normally be reached on Monday – Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young, can be reached at (571) 272 - 7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TAN Xuan DINH/
Primary Examiner, Art Unit 2627
September 11, 2008

BMB
September 11, 2008